

In The Claims

Please amend the claims as follows:

1. (Currently Amended) A composition for making breathable films, the composition comprising:

(i) 20 - 50 %, based on the weight of the total composition, a bimodal polyethylene composition, further comprising:

(i-a) a first low molecular weight component, which is a homopolymer of ethylene or a copolymer of ethylene and one or more C₄ to C₁₀ alpha-olefins, having a melt flow rate MFR₂ of 50 to 500 g/10 min, preferably of 100 to 400 g/10 min and a density of 940 to 975 kg/m³, preferably 945 to 975 kg/m³, the first component being present in the bimodal polyethylene composition in an amount of 37 to 48 % by weight, and

(i-b) at least a second component, which is a copolymer of ethylene and one or more C₄ to C₁₀ alpha-olefins, having a higher molecular weight, a lower melt index and a lower density than the said first component, the second component being present in the bimodal polyethylene composition in an amount of 52 to 63 % by weight, so that the said bimodal polyethylene composition has a melt flow rate, determined according to ISO 1133 at 190°C, MFR₂ in the range of 0.1 to 4.0 g/10 min, ~~preferably 0.1 to 0.8 g/10 min~~, MFR₂₁ in the range of 15 to 200 g/10 min, ~~preferably 15 to 70 g/10 min~~ and a density of 918 to 935 kg/m³,

(ii) 40-70 %, based on the weight of the total composition, a particulate filler, and

(iii) 0-30 %, based on the weight of the total composition, another olefin-based polymer.

2. (Original) The composition according to Claim 1, wherein the other olefin based polymer is selected from the group of homo- and copolymers propylene, 1-butene and 4-

BEST AVAILABLE COPY

methyl-1-pentene.

3. (Currently Amended) The composition according to Claim 1 ~~or 2~~, wherein the other olefin based polymer is a propylene homo- or copolymer, ~~preferably a copolymer of propylene and ethylene.~~

4. (Original) The composition according to Claim 3, wherein the composition comprises of 5 to 20 %, based on the weight of the total composition, of the said propylene polymer.

5. (Original) The composition according to Claim 1, wherein the content of the particulate filler is 55 to 70%.

6. (Currently Amended) A composition according to ~~any one of the preceding claims 1~~, wherein the particulate filler is calcium carbonate.

7. (Currently Amended) ~~A~~The composition according to claim 1 wherein said for making breathable films, the composition comprising:

~~(i) 20-50 %, based on the weight of the total composition, a bimodal polyethylene composition having~~has the following properties (a) to (d):

(a) density from 912 to 935 kg/m³;

(b) melt index flow rate MFR₂ from 0.1 to 0.8 g/10 min;

(c) melt index flow rate, determined according to ISO 1133 at 190°C, MFR₂₁ from

BEST AVAILABLE COPY

15 to 70 g/10 min; and

(d) flow rate ratio MFR_{21}/MFR_2 from 60 to 120;

~~(ii) 40-70 %, based on the weight of the total composition, a particulate filler, and (iii) 0-30 %, based on the weight of the total composition, another olefin-based polymer.~~

8. (Original) A composition according to Claim 7, wherein the bimodal polyethylene composition has:

(e) a weight average molecular weight ~ from 150000 to 300000 g/mol;

(f) a ratio of the weight average molecular weight to the number average molecular weight (M_w/M_n) from 7 to 30; and

(g) a content of alpha-olefin comonomer units of 2 to 5 % by mole.

9. (Currently Amended) The composition according to ~~any one of Claims 7 or 8,~~ wherein the other olefin based polymer is a propylene homo- or copolymer, ~~preferably a copolymer of propylene and ethylene.~~

10. (Original) The composition according to Claim 9, wherein the composition comprises of 5 to 20 %, based on the weight of the total composition, of the said propylene polymer.

11. (Currently Amended) The composition according to ~~any one of Claims 7 or 8,~~ wherein the content of the particulate filler is 55 to 70 %.

BEST AVAILABLE COPY

12. (Currently Amended) A composition according to ~~any one of Claims 7 to 11~~, wherein the particulate filler is calcium carbonate.

13. (Currently Amended) A method for making films comprising: using a composition comprising:

(i) 20 - 50 %, based on the weight of the total composition, a bimodal polyethylene composition, further comprising:

(i-a) a first low molecular weight component, which is a homopolymer of ethylene or a copolymer of ethylene and one or more C₄ to C₁₀ alpha-olefins, having a melt flow rate MFR₂ of 50 to 500 g/10 min, preferably of 100 to 400 g/10 min and a density of 940 to 975 kg/m³, preferably 945 to 975 kg/m³, the first component being present in the bimodal polyethylene composition in an amount of 37 to 48 % by weight, and

(i-b) at least a second component, which is a copolymer of ethylene and one or more C₄ to C₁₀ alpha-olefins, having a higher molecular weight, a lower melt index and a lower density than the said first component, the second component being present in the bimodal polyethylene composition in an amount of 52 to 63 % by weight, so that the said bimodal polyethylene composition has a melt flow rate, determined according to ISO 1133 at 190°C, MFR₂ in the range of 0.1 to 4.0 g/10 min, MFR₂₁ in the range of 15 to 200 g/10 min and a density of 918 to 935 kg/m³,

(ii) 40-70 %, based on the weight of the total composition, a particulate filler, and

(iii) 0-30 %, based on the weight of the total composition, another olefin-based polymer.

~~The use of the composition according to any one of Claims 1 to 12 for making films.~~

14. (Currently Amended) A breathable polymer film, which film comprises a composition according to any one of Claims 1 to 12 comprising:

(i) 20 - 50 %, based on the weight of the total composition, a bimodal polyethylene composition, further comprising:

(i-a) a first low molecular weight component, which is a homopolymer of ethylene or a copolymer of ethylene and one or more C₄ to C₁₀ alpha-olefins, having a melt flow rate MFR₂ of 50 to 500 g/10 min, preferably of 100 to 400 g/10 min and a density of 940 to 975 kg/m³, preferably 945 to 975 kg/m³, the first component being present in the bimodal polyethylene composition in an amount of 37 to 48 % by weight, and

(i-b) at least a second component, which is a copolymer of ethylene and one or more C₄ to C₁₀ alpha-olefins, having a higher molecular weight, a lower melt index and a lower density than the said first component, the second component being present in the bimodal polyethylene composition in an amount of 52 to 63 % by weight, so that the said bimodal polyethylene composition has a melt flow rate, determined according to ISO 1133 at 190°C, MFR₂ in the range of 0.1 to 4.0 g/10 min, MFR₂₁ in the range of 15 to 200 g/10 min and a density of 918 to 935 kg/m³,

(ii) 40-70 %, based on the weight of the total composition, a particulate filler, and

(iii) 0-30 %, based on the weight of the total composition, another olefin-based polymer.

15. (Currently Amended) ~~A~~The film according to Claim 14 wherein the film has a water vapour transmission rate, measured using a Permatran W100K water vapour permeation analysis system, of more than 3000 g/m²/24 h, ~~preferably more than 4000~~

$\text{g/m}^2/24\text{ h}$.

16. (Currently Amended) ~~A~~The film according to ~~any one of Claims 14 to 15~~, wherein the film has a basis weight of less than 25 g/m^2 .

17. (Currently Amended) A process for producing a breathable polymer film, comprising the steps of.

(A) providing into an extruder a composition ~~according to any one of Claims 1 to 12~~ comprising:

(i) 20 - 50 %, based on the weight of the total composition, a bimodal polyethylene composition, further comprising:

(i-a) a first low molecular weight component, which is a homopolymer of ethylene or a copolymer of ethylene and one or more C_4 to C_{10} alpha-olefins, having a melt flow rate MFR_2 of 50 to 500 g/10 min, preferably of 100 to 400 g/10 min and a density of 940 to 975 kg/m^3 , preferably 945 to 975 kg/m^3 , the first component being present in the bimodal polyethylene composition in an amount of 37 to 48 % by weight, and

(i-b) at least a second component, which is a copolymer of ethylene and one or more C_4 to C_{10} alpha-olefins, having a higher molecular weight, a lower melt index and a lower density than the said first component, the second component being present in the bimodal polyethylene composition in an amount of 52 to 63 % by weight, so that the said bimodal polyethylene composition has a melt flow rate, determined according to ISO 1133 at 190°C , MFR_2 in the range of 0.1 to 4.0 g/10 min, MFR_{21} in the range of 15 to 200 g/10 min and a density of 918 to 935 kg/m^3 ,

(ii) 40-70 %, based on the weight of the total composition, a particulate filler, and

(iii) 0-30 %, based on the weight of the total composition, another olefin-based polymer;

(B) extruding the composition to a film; and

(C) stretching the film to produce a breathable film.

18. (Currently Amended) The process according to Claim 17, wherein the film is stretched with a stretching ratio of 3 to 10, ~~preferably 4 to 7.~~

19. (Currently Amended) The process according to ~~any one of~~ Claims 17 ~~to 18~~, wherein the bimodal polyethylene composition has been produced by a process comprising the steps of:

- (i) subjecting ethylene, hydrogen and optionally comonomers to a first polymerisation or copolymerisation reaction in the presence of the polymerisation catalyst in a first reaction zone or reactor to produce a first polymerisation product having a low molecular weight with a melt flow rate, determined according to ISO 1133 at 190°C, MFR₂ of 50 to 500 g/10 min; ~~preferably of 100 to 400 g/10 mm~~ and a density of 940 to 975 kg/m³, ~~preferably 945 to 975 kg/m³,~~
- (ii) recovering the first polymerisation product from the first reaction zone,
- (iii) feeding the first polymerisation product into a second reaction zone or reactor,

- (iv) feeding additional ethylene, comonomers and, optionally, hydrogen to the second reaction zone,
- (v) subjecting additional ethylene and additional comonomer(s) and, optionally, hydrogen to the second reaction zone in the presence of the said polymerisation catalyst and the first polymerisation product,
- (vi) to produce a polymer composition comprising from 41 to 48 % by weight of the low molecular weight polymer produced in step (i), and from 59 to 52 % by weight of the high molecular weight component produced in step (v),
- (vii) the composition having a melt flow rate, determined according to ISO 1133 at 190°C, in the range MFR₂ of 0.1 to 4.0 g/10 min, ~~preferably 0.1 to 0.8 g/10 min~~ and a density of 918 to 935 kg/m³, and
- (viii) recovering the combined polymerisation product from the second reaction zone.

20. (Original) The process according to Claim 19, wherein at least part of the volatile components of the reaction medium are evaporated and removed from the first polymerisation product before the said first polymerisation product is introduced into the second reaction zone or reactor.

BEST AVAILABLE COPY